Carnegie Learning, Inc.

Geometry

Based on extensive scientific research at Carnegie Mellon Univ, Carnegie Learning's Geometry helps students understand geometric concepts and build critical skills in spatial reasoning. As they progress from concrete to abstract thinking, students use algebraic connections and prior knowledge to practice inductive and deductive reasoning, which leads to mastery of core geometric concepts. Classroom activities address both mathematical content and process standards. Students engage in problem solving, communication and reasoning while making connections using multiple representations. The textbook provides an opportunity for extended investigations, analysis and alternate solution paths. Real-world situations are used in problems designed to emphasize connections between verbal, numeric, graphic and algebraic representations. The classroom environment promotes discourse, collaborative work and depth of understanding.

Curriculum is correlated to the Kentucky Program of Studies and Core Content for Assessment 4.1. Geometry is also supported by a comprehensive Professional Development plan.

Teacher Edition		
9781932409673 Geometry Teacher Edition		$85.00

Essential Items		
9781932409697 Geometry Student Assignments	Nimas	
9781932409703 Geometry Homework Helper	Nimas	

Ancillary Items		
9781934800560 Geometry Cognitive Tutor Software	Section 508	$271.20

Free with Purchase items

ISBN
9781932409666

Contract Price
$76.00

Grade
9,10,11

TYPE
P2

Copyright
2008

Author
Carnegie Learning, Inc.

Edition
2008

Content
Geometry

Readability
Lexile = 840

Accessibility
Nimas

Research
www.carnegielearning.com/approach_research.cfm

Provided by the Publisher

ISBN 9781932409666	Publisher - **Carnegie Learning, Inc.**		
Geometry			
Type - P2	Author - Carnegie Learning, Inc.		
Copyright - 2008	Edition - 2008	Readability - Lexile = 840	
Course - Geometry		Grade(s) - 9,10,11	
Teacher Edition ISBN if applicable 9781932409673			

Provided by the Publisher

Overall Recommendation: **Recommended as BASAL**

if this box is not checked, the evaluators have chosen NOT recommend as basal

Overall Strengths, Weaknesses, Comments:

Discovery-learning techniques provide the typical high school student with the opportunity to explore basic geometry concepts. Activities represent a variety of cultures and topics that would be of potential interest to students. The text lacks the rigor expected in a college-prep curriculum, but would be appropriate for a more general geometry course.

NIMAC Accessibility	N	
Ancillary	Yes	
Free with Purchase	No	
Research	Yes	www.carnegielearning.com/approach_research.cfm

Based on extensive scientific research at Carnegie Mellon University, Carnegie Learning's Geometry helps students understand geometric concepts and build critical skills in spatial reasoning. As they progress from concrete to abstract thinking, students use algebraic connections and prior knowledge to practice inductive and deductive reasoning, which leads to mastery of core geometric concepts. Classroom activities address both mathematical content and process standards. Students engage in problem solving, communication and reasoning while making connections using multiple representations. The textbook provides an opportunity for extended investigations, analysis and alternate solution paths. Real-world situations are used in problems designed to emphasize connections between verbal, numeric, graphic and algebraic representations. The classroom environment promotes discourse, collaborative work and depth of understanding.

CRITERIA

This basal resource …

A. Encompasses KY Content Standards & Grade Level Expectations **Moderate Evidence**

Text is designed to be used in an elective course outside the Program of Studies

1) Includes the 5 Big Ideas of mathematics to the following extent:

a) Number Properties and Operations	Moderate Evidence
b) Measurement	Strong Evidence
c) Geometry	Strong Evidence
d) Data Analysis and Probability	Not Applicable

e) Algebraic Thinking	Little or No Evidence
2) Addresses content-specific enduring understandings from the related Program of Studies standards.	Moderate Evidence
3) Addresses content-specific skills and concepts from the related Program of Studies standards.	Moderate Evidence
4) Content addressed is current, relevant and non-trivial	Strong Evidence
5) Provides opportunities for critical thinking/reasoning	Strong Evidence

6) Strengths, Weaknesses, Comments:

- Specific strengths-which areas/concepts are covered exceptionally well?
- Specific weaknesses-which areas/concepts would likely require supplementing?

The textbook addresses the basic geometry and measurement concepts from the Program of Studies. The discovery-learning approach provides many opportunities for development of critical thinking skills, as well as real-world learning situations. The informal approach of this textbook lends itself better toward a general geometry course rather than a college-track course, as it lacks the rigor expected for a college-bound student.

B. Functionality & Suitability — Moderate Evidence

1) Suitability — **Moderate Evidence**

- Should be suitable for use with a diverse population and is free of bias regarding race, age, ethnicity, gender, religion, social and/or geographic environment; is free of stereotyping or bias of any kind.

2) Content quality — **Moderate Evidence**

- Free from factual errors
- Content is presented conceptually when possible—more than a mere collection of facts
- Content included accurately represents the knowledge base of the discipline
- Theories/scientific models contained represent a broad consensus of the scientific community
- Interconnections among mathematical topics

3) Connections to Literacy — **Moderate Evidence**

- Employs a variety of reading levels and is grade/level appropriate
- Use of multiple representations-concrete, visual/spatial, graphs, charts, etc.
- Provides opportunities for summarizing, reviewing, and reinforcing vocabulary skills and concepts at multiple levels of difficulty for a variety of learning styles.
- Student text provides opportunity to integrate reading and writing
- Uses vocabulary that is age and content appropriate
- Focuses on critical vocabulary vs. extensive lists
- Identifies key vocabulary through definitions in both text and glossary
- The text is engaging and facilitates learning
- Embedded activities enhance the understanding of the text
  Note: may apply to either student or teacher editions

4) Connections to Technology — **Little or No Evidence**

- Integrates technology and reflects the impact of technological advances
- Uses technology in the collection and/or manipulation of authentic data
- Embeds web links as a mathematics resource.

5) Support for Diverse Learners **Moderate Evidence**

- Provides support for ESL students
- Provides support for differentiation of instruction in diverse classrooms
- Challenge for gifted and talented students
- Support for students with learning difficulties
  Note: may apply to either student or teacher editions

6) Strengths, Weaknesses, Comments:

- Reviewers may provide page numbers to point out specific strong examples for individual evaluation standards.

Discovery-based investigations are beneficial for students who have weak language skills or who have struggled in previous math classes. Materials can be easily adapted for special needs students, and a considerable number of extra practice problems are provided in supplemental materials. Stronger students may not be challenged, however. The use of technology is extremely limited; teachers would need find or develop materials to supplement if this is a concern.

C. Supports Inquiry and Skill Development — Moderate Evidence

1) Promotes Inquiry, research and Application of Learning Moderate Evidence

- Provides opportunities for inquiry and research that includes activities such as gathering information, researching resources, observing, interviewing, and evaluating information, analyzing and synthesizing data and communicating findings and conclusions, formulating authentic questions to deepen and extend mathematical reasoning.
- Requires students to use higher-level cognitive skills (analysis, synthesis, evaluation, generalizing, justifying, etc.)
- Provides activities and projects for students to deepen their knowledge and cultivate and strengthen problem-solving and decision-making skills.
- Provides opportunities for application of learned concepts.
- Uses a variety of relevant charts, graphs, diagrams, number lines, and other illustrations to invite and motivate students to engage in discussion, problem solving, and other high-order thinking skills.
- Emphasizes conceptual understandings that invite students to predict, conclude, evaluate, develop and extend ideas to support reasoning.
  Note: may apply to either teacher or student edition

2) Skill Development Moderate Evidence

- Provides opportunities to make sense of all mathematics
- Provides opportunities to recognize, create, and extend patterns.
- Provides opportunities for critical thinking and reasoning.
- Provides opportunities to justify/prove responses.
- Provides opportunities to ask deeper questions.
- Contains embedded activities (or extensions) that emphasize use of technology for problem solving
  Note: may apply to either teacher or student edition

3) Strengths, Weaknesses, Comments:

The inquiry approach to learning used by the text provides opportunity for the students to justify basic geometry concepts. Also, good connections are made to other basic mathematics concepts and to other subject areas. The text does not encourage students to investigate

these concepts beyond the basic level, and the student use of technology is not evident.

D. Supports Best Practices of Teaching and Learning — Moderate Evidence

1) Engages Students — Moderate Evidence

- Includes content geared to the needs, interests, and abilities of all students
- Engages and motivates students using components such as real-life situations, simulations, experiments, and data gathering.
- Includes information and activities that assist students in seeing relevance of concepts (where appropriate) to their own lives and experiences
- Provides a variety of strategies, activities, and materials to enhance student learning at the appropriate learning levels
- Activities are truly congruent to the concepts addressed, not merely correlated
  Note: may apply to either teacher or student edition

2) Uses Assessment to Inform Instruction — Moderate Evidence

- Includes multiple means of assessment as an integral part of instruction
- Provides evaluation measures in the teacher edition that supports differentiated learning activities
- Embedded assessments reflect a variety of Depth of Knowledge levels
  Note: may apply to either teacher or student edition

3) Strengths, Weaknesses, Comments:

- Reviewers may provide page numbers to point out specific strong examples for individual evaluation standards

Material is geared toward the general student population, but lacks the rigor needed by the college-bound student. Activities represent a variety of cultural backgrounds, and assessment contain a variety of problem situations and question types (multiple-choice, short-answer, etc.). Little evidence above DOK2 is present, and open-response items tend to be shorter and less challenging than released state testing items.

E. Has an Organization/ Format that Supports Learning and Teaching — Moderate Evidence

1) Organizational Quality — Moderate Evidence

- Print and/or electronic materials present minimal barriers to learners, but also add encouragement for students to stretch and make further explorations.
- Presents chapters/lessons in an organized and logical sequence
- Provides clearly stated objectives for each lesson.
- Uses text features (e.g., titles, headings, subheadings, review questions, goals, objectives, space, print, type size, color) to enhance readability.
- Makes use of various forms of media (e.g., CD's, recordings, videos, cassette tapes, computer software, web-based components, interactive software, calculators, physical and virtual manipulatives) as either student or teacher resources
- Includes clear, accurate, appropriate and clearly explained illustrations and/or graphics that reinforce content standards.
- Incorporates a glossary, footnotes, recordings, pictures, and/or tests that aid pupils and teachers in using the book effectively
- Uses grade-appropriate type size

- Included media are durable, easy to use and have technical merit
- Construction appears to be durable and able to withstand normal use

2) Essential Components (beyond student and teacher text) Moderate Evidence

- Items identified as essential components support the learning goals and concept coverage of the basal

3) Strengths, Weaknesses, Comments:

- Reviewers may provide page numbers to point out specific strong examples for individual evaluation standards.

Activities are well-organized with clear objectives. Little use is made of media other than the text itself. Graphics and illustrations are appropriate, but do not particulatly enhance the readability or catch student interest. The books are soft-cover, so durability is an issue. Student texts may be best treated as consumable products. Essential components provide additional problems at the same general level as the text, with little added scaffolding or extension.

F. Has available Ancillary/ Gratis Materials

Note: The decision whether to recommend or not recommend this resource as a basal should not be influenced by Section F

Moderate Evidence

1) Ancillary/Gratis Materials

- Coordinates teacher resources easily with student material (e.g., accompaniments included, student pages shown, instructional technology indicated).
- Are well-organized and easy to use
- Provide substantive learning opportunities and are congruent with student learning goals
- Provide opportunities for high-level thinking, assessment, and/or problem solving
- Provides opportunities for intervention.

2) Strengths, Weaknesses, Comments:

- Reviewers may provide page numbers to point out specific strong examples for individual evaluation standards.

Ancillary materials provide supplemental questions at the same level as the text.